

**Table 1**      **Archived Files for Steel SCBF Archetypes**

Archetype ID	No. of Stories	Seismic Region	Parametric Study	Peak Response Archive Files
COM1B	1	High	Baseline	Stripe_Statistics_ATC116_S_COM1B
COM2B	2	High	Baseline	Stripe_Statistics_ATC116_S_COM2B
COM2B-SS	2	High	SSI/Foundation Flexibility*	Stripe_Statistics_ATC116_S_COM2B-SS1 Stripe_Statistics_ATC116_S_COM2B-SS2 Stripe_Statistics_ATC116_S_COM2B-SS1-Unfiltered Stripe_Statistics_ATC116_S_COM2B-SS2-Unfiltered
COM2B-NR	2	High	No Redundancy	Stripe_Statistics_ATC116_S_COM2B-NR
COM2B-BC	2	High	Brace Configuration	Stripe_Statistics_ATC116_S_COM2B-BC
COM2B-NMF	2	High	No Reserve Moment Frame	Stripe_Statistics_ATC116_S_COM2B-NMF
COM3B	4	High	Baseline	Stripe_Statistics_S_ATC116_COM3B
COM3B-SS	4	High	SSI/Foundation Flexibility	Stripe_Statistics_ATC116_S_COM2B-SS1 Stripe_Statistics_ATC116_S_COM2B-SS2
COM3B-BC	4	High	Brace Configuration	Stripe_Statistics_ATC116_S_COM3B-BC
COM4B	1	Very High	Baseline	Stripe_Statistics_ATC116_S_COM4B
COM5B	2	Very High	Baseline	Stripe_Statistics_ATC116_S_COM5B
COM6B	4	Very High	Baseline	Stripe_Statistics_ATC116_S_COM6B

\* Soft and stiff sites with unfiltered and filtered ground motions.

**Table 2** Description of Response Parameters Archived for Each Orthogonal Direction (EW and NS) for Each Steel SCBF Archetype

Statistic Type	Response Parameters	Statistical Values
Peak Relative Displacement	Peak Roof Drift Peak Story Drift at Each Story Maximum Peak Story Drift	Median <sup>(1)</sup> Mean of Survivors <sup>(2)</sup> Overall Mean <sup>(3)</sup> Overall Beta <sup>(4)</sup> Minimum Maximum
Peak Relative Velocity	Peak Relative Velocity at All Levels	
Peak Absolute Acceleration	Peak Absolute Acceleration at All Levels	
Residual Relative Drift	Residual Roof Drift Ratio Residual Story Drift Ratio for Each Story Maximum Residual Story Drift	
Collapse	All Records Collapse Cases	Percentage
	Individual Record Collapse Cases	Peak Roof Displacement at Last Surviving Intensity, Floor Level Initiating Collapse, and Collapse Direction

<sup>(1)</sup> Median from fitted lognormal distribution based on all  $2 \times 22$  earthquake record sets; for nonsurviving records (i.e., records causing collapse), they are calculated with the last values.

<sup>(2)</sup> Mean value for surviving earthquake records (i.e., records not causing collapse).

<sup>(3)</sup> Mean value for all  $2 \times 22$  earthquake record sets; calculated with the last values for nonsurviving records.

<sup>(4)</sup> The lognormal standard deviation for all  $2 \times 22$  earthquake record sets; calculated with the last values for nonsurviving records.